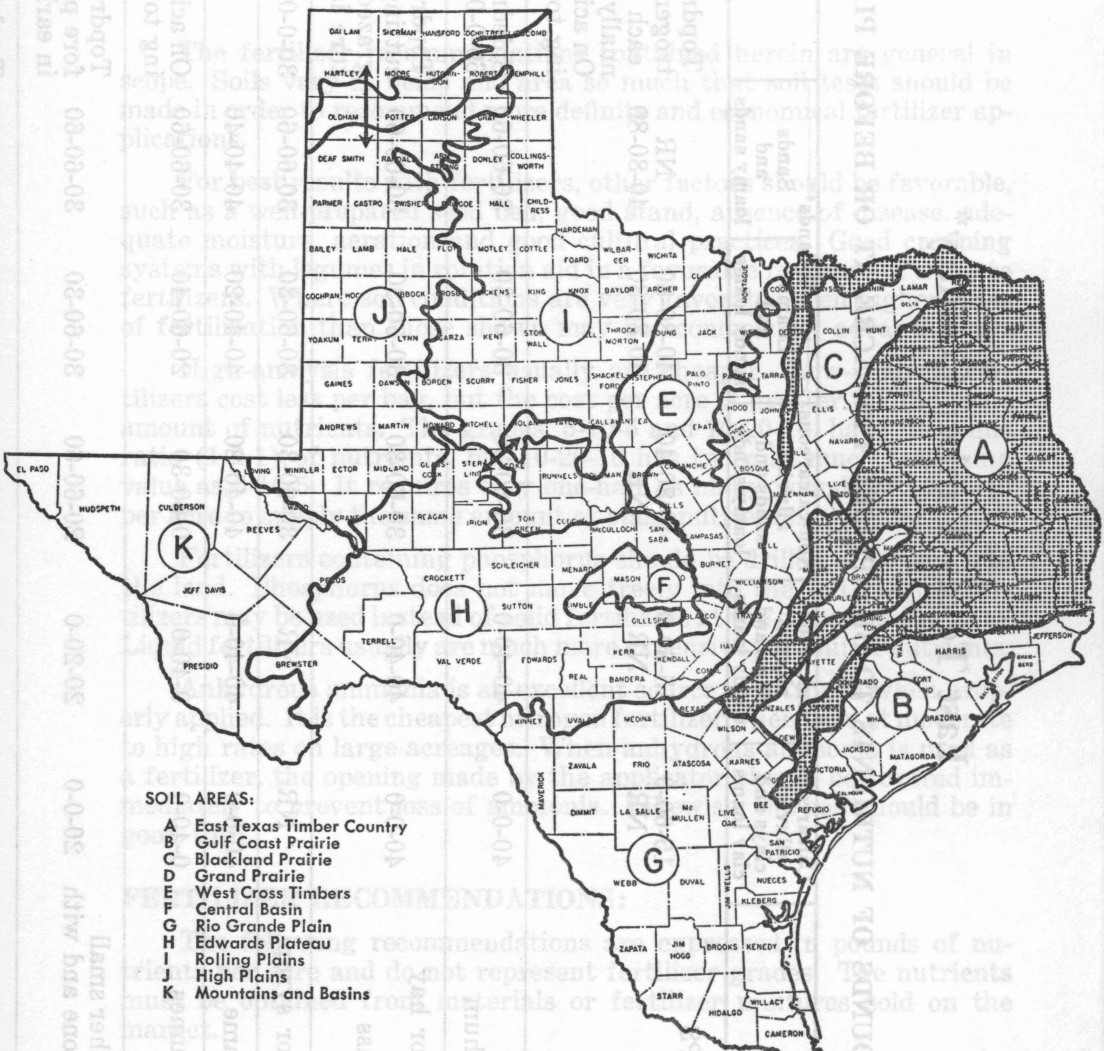
FERTILIZER RECOMMENDATIONS

for the East Texas Timbers



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TEXAS AGRICULTURAL EXTENSION SERVICE
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FERTILIZER RECOMMENDATIONS

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The fertilizer recommendations contained herein are general in scope. Soils vary in fields and area so much that soil tests should be made in order to recommend more definite and economical fertilizer applications.

For best results with fertilizers, other factors should be favorable, such as a well-prepared seed bed, good stand, absence of disease, adequate moisture, aeration and good cultural practices. Good cropping systems with legumes in rotation aid in a favorable response of crops to fertilizers. Where soil conditions are very favorable even higher rates of fertilization than those shown may be economically advantageous.

High-analysis fertilizers usually are cheaper. Low-analysis fertilizers cost less per bag, but the cost per acre is greater for the same amount of nutrients. The grades, 5-10-5 and 10-20-10, have the same ratio (1-2-1) of nutrients, but 10-20-10 has twice as much fertilizing value as 5-10-5. It requires only one-half as many pounds of 10-20-10 per acre to supply the same amount of plant nutrients.

Fertilizers containing phosphorus should be drilled or plowed into the land. Phosphorus does not move freely into the soil. Liquid fertilizers may be used instead of solid fertilizers at the same rate per acre. Liquid fertilizers usually are much more expensive per unit of nutrients.

Anhydrous ammonia is an excellent source of nitrogen when properly applied. It is the cheapest nitrogen fertilizer when used at moderate to high rates on large acreages. When anhydrous ammonia is used as a fertilizer, the opening made by the applicator should be covered immediately to prevent loss of ammonia. Likewise, the soil should be in good tilth.

FERTILIZER RECOMMENDATIONS:

The following recommendations are expressed in pounds of nutrients per acre and do not represent fertilizer grades. The nutrients must be obtained from materials or fertilizer mixtures sold on the market.

For example, a recommendation calling for 30-60-30, which is a 1-2-1 ratio, can be obtained by applying 600 pounds of 5-10-5 or 250 pounds of 12-24-12 or 300 pounds of 10-20-10. Again, if a recommendation calls for 15-60-0, this may be obtained by applying about 400 pounds of a 4-16-0 or 125 pounds of 11-48-0.

Row Crops: Fertilizer usually is applied at the time of planting or just before. Fertilizers are more efficiently used by most crops when applied in a band 2 to 3 inches to the side and 2 to 3 inches below the seed.

If equipment for applying fertilizers in bands while planting or cultivating is not available, apply the fertilizer in the water furrow and bed on it when the land is prepared for planting. Avoid putting the seed too close to the fertilizer as germination may be impaired.

If large quantities of nitrogen fertilizer are to be applied, part of the nitrogen should be drilled into the soil with the phosphorus and potash and the remainder applied 35 to 45 days later as a side or topdressing.

Small Grains: Fertilizers for small grains may be broadcast, drilled in or plowed in. Fertilizers containing nitrogen and potash should not be allowed to touch the seed.

Phosphorus, potash and part of the nitrogen should be applied at or before seeding. The rest of the nitrogen should be applied in the spring before plants begin to joint.

Pastures: For establishing improved pastures, fertilizer should be applied in bands when possible. Otherwise, it should be broadcast, drilled or plowed in. For maintenance, topdress with 30-0-0 as needed. Repeat basic fertilizer treatment annually as suggested or according to a soil test.

Fruit Trees: Fertilizer for fruit trees may be applied over the entire area covered by the orchard when the trees are mature. In nonbearing orchards, the fertilizer should be applied over the area covered by the spread of the limbs. Keep fertilizer 1 foot away from tree trunks. Cultivate fertilizer applications into the soil.

Recommendations for fertilizers in this circular are those found best by experiments, tests and practical experience in the field. They range from the calcareous (limy) river valley clays to the sands of the uplands. If your farm contains both clays and loams, there will be two recommendations for your land.

When crops follow legumes turned under, the amount of fertilizer to be applied at planting may be reduced. Side or topdress with the amount of fertilizer suggested.

The letters NR mean that the crop is not recommended for this class of soils.

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East Texas Timber Country*

POUNDS OF NUTRIENTS TO BE APPLIED PER ACRE AT OR BEFORE PLANTING

	Calcareous alluvial clays and clay loams	Calcareous alluvial loams and sandy loams	Non-calcareous alluvial sands and loamy sands	Uplands** Loams and sandy loams	Uplands** Sands and loamy sands	Remarks
FIELD CROPS						
Alfalfa	15-60-0	15-60-0	40-80-40	40-80-80	NR	Topdress with 30 lb. nitrogen and 30 lb. potash each cutting. Repeat annually for maintenance. On acid soils, lime according to soil test
Sericea	NR	NR	NR	40-80-80	40-80-80	
Corn Grain sorghum	40-0-0	40-40-0	30-60-30	30-60-30	30-60-60	Sidedress in 35 days with 60-0-0
Sorghum for hay Sudan Johnsongrass Millet	40-0-0	40-40-0	30-60-30	30-60-30	30-60-60	Topdress with 30-0-0 each cutting or each time grazed down if soil moisture is adequate
Sorghum for syrup	NR	NR	30-60-30	30-60-30	30-60-60	30-0-0 in 35 days
Cotton, sesame	40-0-0	40-40-0	40-40-20	40-40-20	40-40-40	
Annual legumes	0-40-0	0-40-0	0-60-30	20-60-40	30-60-60	On acid soils, lime according to soil test
Oats and other small grains alone and with legumes	20-0-0	20-20-0	20-60-60	30-60-30	30-60-60	Topdress with 30-0-0 before plants begin to joint in early spring
Pastures Grasses only, and with legumes	30-0-0	30-30-0	30-60-30	30-60-30	30-60-60	Topdress with 30-0-0 each time grazed down when soil moisture is adequate
Peanuts	NR	NR	NR	20-40-20	20-40-40	Topdress with 300 lb. gypsum or lime over peg zone at blooming time
Sugar cane for syrup	NR	NR	30-60-30	30-60-30	30-60-60	Sidedress with 30-0-0 in May or June
TRUCK CROPS						
Mustard, collards	40-40-0	40-80-0	40-80-40	40-80-40	40-80-80	
Cabbage, lettuce	40-40-0	40-80-0	40-80-40	40-80-40	40-80-80	When heads begin to form sidedress with 40-0-0
Carrots, beets, turnips	NR	40-80-0	40-80-40	40-80-40	40-80-80	
Irish potatoes	NR	80-80-0	80-80-40	80-80-40	80-80-80	
Sweetpotatoes	NR	NR	NR	40-80-120	40-80-120	
Onions (green)	20-40-0	20-80-0	40-80-40	40-80-40	40-80-80	Sidedress with 40-0-0 30 days after planting. If bulb onions are being grown, omit sidedressing
Tomatoes, peppers eggplants, okra	60-0-0	40-80-0	80-80-40	80-80-40	80-80-80	2/3 applied 2 weeks bebore transplanting 1/3 applied at first bloom
Cantaloupes Squash Cucumbers	NR	40-80-40	40-80-40	40-80-40	40-80-80	Sidedress with 40 - 0 - 0 when vines begin to bloom — On acid soils, lime according to soil test
Watermelons	NR	0-40-20	30-60-0	20-40-20	30-60-30	
Beans	20-40-0	40-40-0	40-40-20	40-40-20	40-40-40	
Peas, blackeye purple hull, etc.	0-40-0	20-40-0	20-60-20	20-60-20	20-60-60	
Blackberries Dewberries	NR	NR	40-80-0	40-80-40	80-80-80	Apply in February
Strawberries	NR	NR	70-140-70	70-140-70	70-140-140	½ at planting, ½ at first bloom
FRUIT TREES	Pounds of Fertilizer per bearing tree per inch diameter					
Apples	NR	NR	2 lb. 5-10-5	2 lb. 5-10-5	NR	Apply in Feb. For young trees 1/3 to ½ quantity for bearing trees
Peaches Plums	NR	NR	2 lb. 5-10-5	2 lb. 5-10-5	2 lb. 5-10-5	
Pecans	**NITROGEN**—All soil types. For bearing trees apply 1/3 lb. of N per diameter inch of tree in late February or early March. For young trees apply from one-fourth to one-half as much N, depending on the size of the tree. **Zinc**—All soil types. If there are any signs of rosette or if the orchard has any history of zinc deficiency, spray pecan leaves with 3 lb. of 36% zinc sulfate per 100 gal. of water when leaves are one-third grown.					

The use of a starter solution on transplant sweet potatoes and peppers at the time of transplanting has been shown to result in better stands and increased yields.

***If irrigated, use 50% more than suggested above.**

**On Redland soils, reduce potash ½.